



Role of Oncotype DX® Recurrence Score in Predicting Nodal Response after Neoadjuvant Chemotherapy in Breast Cancer



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ABSTRACT

- Sentinel lymph node biopsy (SLNB) in patients with clinically positive nodes undergoing neoadjuvant chemotherapy (NCT) has been evaluated in recent clinical trials.
- Patients who become clinically node negative following NCT may be candidates for SLNB.
- The appropriate selection of patients for this approach remains challenging.
- Previous studies have looked at factors predicting the likelihood of complete nodal pathologic response (pCR) after NCT.
- Studies are emerging exploring the role of Oncotype DX® in predicting response to neoadjuvant therapy; however, research to date is lacking specifically regarding the role of Oncotype DX® recurrence score (RS) in predicting nodal response after NCT.
- This study aimed to assess the association between low and high RS with nodal pCR.

Figure.1 Patient Characteristics

Age group (years)	N	%
<40	13	8.23
40-54	63	39.87
55-69	63	39.87
>=70	19	12.03
Ethnicity		
Non-Hispanic white	114	72.15
Other	44	27.85
Pathological T		
Negative Pathology	10	6.33
Positive Pathology	148	93.67
Clinical T		
T1	49	31.01
T2	109	68.99
Clinical N		
C1	141	89.24
>/=C2	17	10.76
Grade		
Low/intermediate	105	66.46
High	53	33.54
Oncotype		
Low risk	56	35.44
Intermediate risk	62	39.24
High risk	40	25.32

Figure 2. Nodal Response After Neoadjuvant Chemotherapy Among Clinical Variables

Characteristic	pCR		No pCR		p-value
	N	%	N	%	
Clinical T					
T1	1	4.35	48	35.56	p=0.0028
T2	22	95.65	87	64.44	
Clinical N					
C1	20	86.96	121	89.63	p=0.7021
>/=C2	2	13.04	14	10.37	
Grade					
Low/ Intermediate	10	43.48	95	70.37	p=0.0116
High	13	56.52	40	29.63	
Oncotype					
Low risk	6	26.09	50	37.04	p=0.0268
Intermediate risk	6	26.09	56	41.48	
High risk	11	47.83	29	21.48	

METHODS

- The NCDB was used to identify patients with T1-T2, clinically N1/N2, ER-positive, HER2-negative invasive ductal carcinoma from 2010-2015 who underwent neoadjuvant chemotherapy and in whom an Oncotype DX® recurrence score (RS) was performed.
- RS was classified as low (<17), intermediate (18-30), and high (>31).
- Chi square analyses were performed to determine association between clinical characteristic and nodal pCR.

RESULTS

- Of 158 patients, RS was low in 35%, intermediate in 39%, and high in 25%.
- Nodal pCR occurred in a greater proportion of patients with high RS, compared with intermediate or low RS (48% vs. 26%, and 26%, respectively, p-value =0.027)

CONCLUSIONS

- Patients with high RS have greater rates of nodal pCR following NCT.
- This study shows promise in utilizing Oncotype DX® RS to identify breast cancer patients with clinically positive lymph nodes in whom a significant response to NCT can be anticipated, and who would be ideal candidates for SLNB as opposed to ALND.